



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/484,611 | 01/18/2000 | Feisal Daruwalla | CISCP122/1242 | 9892 |

22434 7590 02/12/2003

BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER

VOLPER, THOMAS E

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2697

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,611

Applicant(s)

DARUWALLA ET AL.

Examiner

Thomas Volper

Art Unit

2697

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed January 16, 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

- No copy of documents C1, C2, C3, C4 and C6 have been provided, and thus have not been considered.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Objections

3. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

Art Unit: 2697

- Claim 37 depends from claim 30, a dependent claim, and is separated from claim 30 by a number of claims not dependent on claim 30.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 2, 4, 6 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Otani et al., cited by IDS submitted December 2, 2002.

- Regarding claim 1, Otani discloses a system wherein a central device (10, Fig. 1) operates to provide service to a cable modem (70). This central device acts like the CMTS of the present invention. In a case of failure of the central device (10), the protection device (1n) takes over. The IP and MAC addresses associated with that connection are set to the protection device (1n) (col. 4, lines 42-65).

Art Unit: 2697

- Regarding claim 2, a memory (101, Fig. 3) in each of the central devices (10-1n, Fig. 1) contains a cable modem controller (115, Fig. 3). This controller (115) administrates control information to the cable modem connected to the central device, including received or transmitted RF signal level control, and settings of RF signal frequencies to the modulator and demodulator of the cable modem (col. 5, lines 51-65).

- Regarding claim 4, see aforementioned reference to Otani regarding claim 1.

- Regarding claim 6, Otani discloses that the protection device (1n) inherits the IP and MAC address of the segment (R0, Fig. 1) from the transmission path side of device (10), which is the original working device. This way cable modem (80) can continue to receive service (col. 4, lines 60-65).

- Regarding claim 8, Otani discloses that the memory (101, Fig. 3), present in all central devices, contains a cable modem controller (115, Fig. 3) that maintains and administrates control information of the cable modem connected to the central device through the CATV transmission path (col. 5, lines 51-55).

- Regarding claim 9, Otani teaches that the cable modem controller also executes settings of RF signal frequencies to the modulator and demodulator in the cable modem (col. 5, lines 58-61).

- Regarding claim 10, Otani discloses that monitoring device (7, Fig. 1) detects a failure of the working central device (10). A switch device (5, Fig. 1) disconnects device (10) and connects the protection device (1n) (col. 4, lines 42-46).

Art Unit: 2697

6. Claims 13, 14 and 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Otani et al.

- Regarding claim 13, Otani discloses a system in which a protection device takes over the operations of a failed working device, as aforementioned with regards to claim 1 above. Furthermore, Otani discloses that each central device (10-12, Fig.2) includes a CPU (100, Fig. 3) and a memory (101, Fig. 3) (col. 5, lines 8-15). Inside the memory is a cable modem controller (115, Fig. 3) that maintains and administrates control information of the cable modem (col. 5, lines 51-55). When the condition is normal, meaning that device (10) is working, the switch device (5, Fig. 2) maintains the connection of device (10) to the transmission path (6, Fig. 2). Only when a failure occurs does the device (10) become disconnected and the device (12) become connected to the transmission path (col. 6, lines 47-58).

- Regarding claim 14, as mentioned with respect to claim 2, Otani discloses that the cable modem controller (115) of each central device can communicate transmit and receive frequency information to the cable modem.

- Regarding claim 16, see reference to Otani regarding claim 1.

- Regarding claim 17, Otani discloses that the memory (101, Fig. 3), present in all central devices, contains a cable modem controller (115, Fig. 3) that maintains and administrates control information of the cable modem connected to the central device through the CATV transmission path (col. 5, lines 51-55).

- Regarding claim 18, Otani teaches that the memory (101) inside the central devices contains a routing controller (114, Fig. 3) and a RIP controller (113, Fig. 3). The routing

Art Unit: 2697

controller performs routing IP addresses according to routing information administrated by the RIP controller (col. 5, lines 41-50).

7. Claims 19, 20 and 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Otani et al.

- Regarding claim 19, Otani discloses a monitor device (7, Fig. 2) on which is comprised of a personal computer that runs a monitor device program and automatic switching program. The monitoring program may detect a failure of the working device, which in turn spurs the automatic switching program. This program maintains a network address, i.e. IP address, of the segment on the transmission path side of the central devices. The information of the failed device is transferred to the protection device and the protection device becomes active (col. 7, lines 1-18).

- Regarding claim 20, Otani teaches that the automatic switching program maintains information including upward/downward RF frequencies. This information of the failed device is transferred to the protection device (col. 7, lines 8-18).

- Regarding claim 22, see aforementioned reference to Otani regarding claim 19.

- Regarding claim 23, Otani discloses that the memory (101, Fig. 3), present in all central devices, contains a cable modem controller (115, Fig. 3) that maintains and administrates control information of the cable modem connected to the central device through the CATV transmission path (col. 5, lines 51-55).

- Regarding claim 24, see aforementioned reference regarding claim 19.

Art Unit: 2697

8. Claims 25-28, 30 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Otani et al.

- Regarding claim 25, Otani teaches a system wherein a protection central device (1n) takes over the operation of a working central device (10) in communication with a cable modem (70) in the case of a failure (col. 4, lines 42-65).

- Regarding claim 26, Otani discloses that the information maintained by the failed device is transmitted to the protection device before becoming active (col. 7, lines 8-18).

- Regarding claim 27, the information mentioned in regard to claim 26 includes an IP address for the transmission path side of the central devices, which includes the original working device (col. 7, lines 8-14).

- Regarding claim 28, Otani teaches that a memory (101) inside the central devices contains control information of the cable modem including received or transmitted RF signal level, and settings of RF signal frequencies (col. 5, lines 51-65).

- Regarding claim 30, Otani discloses that the protection device (1n) inherits the IP and MAC address of the segment (R0, Fig. 1) from the transmission path side of device (10), which is the original working device. This way cable modem (80) can continue to receive service (col. 4, lines 60-65). Moreover, it is possible that the device (10) informs the failure detection to monitor device (7) by itself (col. 8, lines 47-49).

- Regarding claim 31, Otani teaches that the memory (101) inside the central devices contains a routing controller (114, Fig. 3) and a RIP controller (113, Fig. 3). The routing controller performs routing IP addresses according to routing information administrated by the RIP controller (col. 5, lines 41-50).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 5, 7, 15, 21, 29 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otani et al. as applied to claims 1, 2, 4, 6, 8-10, 13, 14, 16-20, 22-28, 30 and 31 in the 102(e) rejection above, and further in view of Chapman.

- Regarding claims 3 and 21, Otani discloses all of the limitations of the claims except that registration comprises specifying DOCSIS compliant parameters. Chapman teaches a system in which a cable modem system (12) that operates according to a protocol such as Data Over Cable System Interface Specification (DOCSIS) (col. 3, lines 50-58). One parameter that identifies a link between a CMTS and a cable modem is DOCSIS Service Identification (SID) (col. 3, 59-65). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the SID as a parameter for registering a cable modem with the protection device of Otani. One of ordinary skill in the art would have been motivated to do this in order to provide the protection device with the identification of the link to the cable modem for which it was to take over service if the system was operating according to DOCSIS protocol.

- Regarding claim 15, Otani discloses all of the limitations except that the system is configured to implement DOCSIS. Chapman discloses a cable modem system (12) that operates according to DOCSIS. At the time the invention was made, it would have been obvious to a

Art Unit: 2697

person of ordinary skill in the art to configure the processors and memory to implement DOCSIS. One of ordinary skill in the art would have been motivated to do this in order to provide protection capability to a system that operated according to DOCSIS, such as the system of Chapman.

- Regarding claim 5, Otani discloses all of the limitations except that the cable modem obtains the IP address in a communication with the cable modem. Chapman discloses a connection between a CMTS and a cable modem using the DOCSIS signaling protocol whereby a unique IP flow is established with each connection. The connection may be initiated by the cable modem (col. 5, lines 38-49). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to allow the cable modem to establish the IP connection with the protection device of Otani in the event of a failure of the working device, because the failed working device may be unable to provide the IP address if it is completely inoperable.

- Regarding claims 7 and 29, Otani fails to disclose that the cable system provides telephony service to the cable modem. Chapman discloses that cable modem systems are used to carry VoIP packets (col. 1, lines 39-41). In the invention of Chapman, header suppression is applied to a network, and is particularly useful for transmitting VoIP packets in a cable network (col. 1, lines 57-67). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide VoIP service in the cable network of Otani. One of ordinary skill in the art would have been motivated to do this offer a wider variety of services to a cable modem end user in the network of Otani.

- Regarding claim 32, Otani discloses a system wherein a central device (10, Fig. 1)

Art Unit: 2697

operates to provide service to a cable modem (70). This central device acts like the CMTS of the present invention. In a case of failure of the central device (10), the protection device (1n) takes over. The IP and MAC addresses associated with that connection are set to the protection device (1n) (col. 4, lines 42-65). Otani fails to disclose that the modem contains a memory wherein the modem stores registration data for communicating with the working device and the protection device. Chapman discloses that cable modem (19, Fig. 8A) may contain multiple SIDs, or Service Identification field. Each SID will have a packet classification table, which implies the modem must have some sort of memory in order to store this table (col. 8, lines 8-15). Moreover, Chapman discloses that grants of service may comprise entries in a map table local to the cable modem (col. 8, lines 40-42). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to maintain a SID, which would comprise the registration information, for each of the central devices in the invention of Otani. One of ordinary skill in the art would have been motivated to do this so that the cable modem would have an alternate choice of service in the case of failure of the working device.

- Regarding claim 33, Otani discloses that the IP address associated with the original working device are set to the protection device in case of failure. See reference to Otani regarding claim 32.

- Regarding claim 34, Otani discloses that a memory (101, Fig. 3) in each of the central devices (10-1n, Fig. 1) contains a cable modem controller (115, Fig. 3). This controller (115) administrates control information to the cable modem connected to the central device, including received or transmitted RF signal level control, and settings of RF signal frequencies to the modulator and demodulator of the cable modem (col. 5, lines 51-65). Otani does not expressly

Art Unit: 2697

disclose that the cable modem stores these RF signal frequency settings locally as registration information. As mentioned in reference to claim 32, Chapman discloses a cable modem that keeps local tables for each SID. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to store the frequency settings of each central device in the table associated with each SID. One of ordinary skill in the art would have been motivated to do this in order for service to the cable modem to resume quickly after a failure to the original working device.

- Regarding claim 35, Chapman discloses that the cable modem system (12), wherein a CMTS is connected to a cable modem, operates according to the DOCSIS protocol (col. 3, lines 50-58).

- Regarding claims 36 and 37, Otani discloses that the cable modem controller (115) in the central device executes received and transmitted RF signal level control, and settings of RF signal frequencies to the modulator and demodulator of the cable modem (col. 5, lines 53-61). Otani does not disclose that the cable modem sends a response to an of this downstream control information of the central device. Chapman discloses that the cable modem may make a dynamic service change request to the CMTS (col. 9, lines 8-15). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to have the cable modem issue a service change request in response to the working central device sending control information indicating that it is becoming unavailable. One of ordinary skill in the art would have been motivated to do this so that the cable modem could obtain alternate service in the event of a failure of the original working device.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hess, cited in IDS submitted December 2, 2002, in view of Chapman.

- Regarding claim 11, Hess discloses a system of routers in which the standby port of one router monitors the active port of another router and in the case of failure, the standby port assumes the MAC and IP addresses of the active port, associated with a particular host and becomes active (col. 2, line 45 – col. 3, line 5). Hess fails to disclose that the network by which the host and routers communicate is a wireless network. Chapman discloses that voice data is transmitted over a packet network by first formatting the data stream into multiple discrete packets. An example of this is a VoIP application (col. 1, lines 13-23). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art provide this voice service in the standby router network of Hess. One of ordinary skill in the art would have been motivated to do this in order to provide a host with a variety of useful services.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hess in view of Chapman as applied to claim 11 above, and further in view of Shuen.

- Regarding claim 12, the teaching of Hess in view of Chapman provides all of the limitations of claim 12, except that the network by which the routers and host communicate is a wireless network. Shuen discloses a system for providing transparent communication between a mobile node and a network (col. 6, lines 11-16; see also Fig. 1). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the wireless, mobile node and wireless capable routers of Shuen to connect to the network supported by the

Art Unit: 2697

routers of Hess. One of ordinary skill in the art would have been motivated to do this to provide the host, or end user, freedom to travel while still being able to access the network with router standby capabilities.


Conclusion

13. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 9:00am and 6:30pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo, can be reached at 703-305-4798. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

tev

February 5, 2003


RICKY NGO
PRIMARY EXAMINER